## **Preface**

This report presents the major accomplishments of the National Oceanic and Atmospheric Administration/Climate Monitoring and Diagnostics Laboratory (NOAA/CMDL) for calendar year 1993. This is the 22nd consecutive annual report issued by this organization and its ARL/GMCC predecessor since formation in 1972.

CMDL is located in Boulder, Colorado, with observatories at Barrow, Alaska; Mauna Loa, Hawaii; Cape Matatula, American Samoa; and South Pole, Antarctica. It is one of twelve components of the Environmental Research Laboratories within NOAA's Office of Oceanic and Atmospheric Research. The collected plans and accomplishments of all Environmental Research Laboratories are jointly published in two separate volumes: the *ERL Programs and Plans* document and the *ERL Publication Abstracts*. This CMDL document supplements the two ERL publications by providing a more detailed view of the CMDL programs during 1993.

This report is organized into six major sections: Observatory Operations; Carbon Cycle Division; Aerosol, Radiation, Ozone, and Water Vapor Division; Acquisition and Data Management Division; Nitrous Oxide and Halocarbons Division; and Cooperative Programs. The body of the report is followed by a list of Publications and Presentations of CMDL personnel for 1993.

Inquires and/or comments are welcomed and should be addressed to:

Director, R/E/CG Climate Monitoring and Diagnostics Laboratory U.S. Department of Commerce/NOAA 325 Broadway Boulder, Colorado 80303-3328 (303) 497-6074